

EASTERN UNIVERSITY, SRI LANKA

FIRST YEAR FIRST SEMESTER EXAMINATION IN AGRICULTURE – 2010/2011

(March/April 2012)

AEN 1103 –BASIC MATHEMATICS (1:15/00)

(Old syllabus)

Answer all questions

Time: One hour

01. Evaluate the following limits of functions:

i. $\lim_{x \rightarrow 3} \frac{27 - x^3}{x^2 - 3x}$;

ii. $\lim_{x \rightarrow 3} \frac{x^2 - 9}{x^2 - x - 6}$;

iii. $\lim_{x \rightarrow 0} \frac{1 - (1 - x)^{1/2}}{x}$;

iv. $\lim_{x \rightarrow 2} \frac{x^2 - 5x + 6}{x^2 - 4}$



02. Differentiate the following functions with respect to the variable x:

i. $y = x^7(8x^5 + 4)$;

ii. $y = (4x^3 - 2x + 1)/(3 - 5x^2)$;

iii. $y = (x^3 + 3x)^6/(x^2 + 3x^2 + 4)^4$.

iv. $y = (4x^2 + 3x)(2x + 1)$;

v. $y = (x + 3)/(x^2 + 7x + 1)$;

03. Integrate the following functions with respect to x:

i. $(4x + 3)(2x - 1)$;

ii. $x^5/(x^6 + 2)$.
